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**NOMENCLATURE AND CHECK-LIST OF NORTH AMERICAN
LAND SHELLS.**

BY H. A. PILSBRY.

The following list includes all of the species of land Pulmonata known to me to inhabit America north of the Mexican Boundary. I have taken this occasion to examine nearly every species (except the *Succinea*) and also to somewhat critically review the generic and subgeneric nomenclature with a view to attaining greater stability. The departures made from the ordinary usage of American malacologists have been only such as seemed to me to be absolutely necessary. The principal innovations are the following:

PRISTILOMA Ancey.

Mr. Ancey proposed in 1887 the subgenus *Pristina* for *Z. lansingi* and *Z. stearnsi* Bld., two tiny Oregon species resembling *Conulus* in the shell. Later, the writer changed the name to *Anceyia* (*Pristina* being preoccupied), and redefined the group, pointing out the true generic characters (which Mr. Ancey had overlooked). This name also having been used for an African genus, Mr. Ancey replaced it by *Pristiloma*. The genus is quite distinct from other American modifications of the *Zonites* stock; and in the combination of aculeate or thorn-shaped marginal teeth of the radula with a strongly ribbed jaw, can only be compared with the New Zealand genus *Phacussa* of Hutton. I can see no reason for uniting this group to either *Zonites* or *Microphysa*.

PATULA Held.

This division of the *Helices* seems to have sufficient individuality to stand as a genus. It is composed of a large number of subdivisions founded on minor modifications of the shell, which varies from large and strongly ribbed to minute, thin, subtranslucent; and whilst usually broadly umbilicated, is often more compactly convoluted, with only a minute perforation. The lip is always acute and thin. The jaw is either striate or ribbed. Like *Helix*, the genus is world-wide in distribution. In many of the sections I have grouped here, the species, or part of them, are viviparous.

PTYCHOPATULA Pilsbry.

This name is proposed for a section of the genus *Patula* including Neotropical *Helices* with minute, conical, thin shells, a narrow um-

bilical perforation, rounded or rounded-lunar aperture. the lip fragile, simple, columellar margin expanded; surface nearly smooth or delicately, very obliquely ribbed. The color is brownish or greenish. The species have heretofore been scattered through two families and many subgenera (*Acanthinula*, *Conulus*, *Pyramidula*, etc.) by Pfeiffer and other authors. The species are as follows: *H. dioscoricola* C. B. Ad., *H. punctum* Morelet, *H. caeca* Guppy, *H. plagioptycha* Shutt., *H. caecoides* Tate, *H. ierensis* Guppy, *H. granum* Strebel et Pfeiffer. This number will require some reduction, as the first three forms are very closely allied, and the last four equally so.

MICROPHYSA Albers.

The note in Proc. Acad. Nat. Sci. Phila. 1889, p. 82, contains the writer's views on this little group, which is allied to *Microconus* and the smaller forms of *Patula*. The name *Microphysa* is preoccupied, and may have to be replaced, in which event *Thysanophora* Strebel may be used, as it seems to be practically synonymous. The section is essentially West Indian.

PUNCTUM Morse.

This genus was perfectly defined by Morse, and should, I am convinced, be restricted to species agreeing with the original diagnosis in characters of animal. I am unable to follow Mr. Binney in uniting it to *Microphysa*, or Dr. Fischer in including *Glyptostoma* with it.

HELIX Linn.

The genus *Helix*, restricted, after the elimination of those groups possessing distinct structural characters, is capable of division into a moderate number (about twenty) of groups which may be ranked as subgenera. Most of these consisting of a number of minor groups, the characters of which usually merge more or less completely into one another in some species. For the primary divisions of the genus, the characters of the shell, genitalia and dentition have about equal value; and the consideration of either one of these characters to the exclusion of the others is almost certain to result in a false grouping.* The older writers on land shells, especially Férussac, defined a large number of subgenera founded on characters of the shell alone; but most of these groups have proved to be so heterogeneous that we are

* Semper's classification founded principally on the genitalia is a notable example of this. The characters of the jaw are of comparatively slight value in the Helices.

compelled to reject them entirely. The same objection applies to many of the divisions made by H. and A. Adams. Albers, in 1850, inaugurated what may be called the modern period in Helicology; and von Martens and Pfeiffer have successively (and generally successfully) elaborated the structure of Albers.

LYSINOE H. and A. Ad.

Consists of *Helices* of Old World affinities, confined to Mexico and the West Coast. The species are excessively variable and plastic, and their inter-relations can be understood only by one acquainted with the conditions under which they exist. This knowledge of their environment I do not possess; and in the specific distinctions I follow mainly Binney, with, however, a different grouping, and a number of other departures from his arrangement. I cannot admit that "*Aglaiia*" (as distinct from "*Arionta*") has any claims to the slightest systematic rank; nor do *Helminthoglypta* or *Micrarionta*, or "*Euparypha*" have any characters worth the time it takes to write them down. Several species of "*Helminthoglypta*" have varieties which are not "helminthoglyptous;" *Micrarionta* is united to the other species by *H. rufocincta* and other species; and as to "*Euparypha*," its species (*H. tryoni*, *areolata*, etc.) are merely arid-country forms of the *kelletti* and *intercisa* group of *Lysinoe*. The true *Euparypha* is a European section closely allied to *Xerophila*, *Fruticicola*, etc., and belonging to a different phylum of *Helices*.

POLYGYRA Say.

Equals, in part, *Anchistoma* Ads., Tryon, Fischer and others. Includes as sections, *Polygyra*, *Mesodon*, *Triodopsis*, etc.

I have adopted *Polygyra* as the name for that group of American *Helices* characterized by a horn-colored striate shell, with reflected white peristome, usually toothed within; ribbed jaw; genitalia simple, without dart-sack or appendages other than the essential organs, penis without flagellum, duct of the spermatheca short. The subgenus thus defined is very homogeneous. Numbers of species would go equally as well in *Mesodon* as in *Triodopsis* or *Stenotrema*. *H. levettei* Bld., is as nearly related to *Polygyra helictomphala* Pfr., as to *Triodopsis*, etc., etc. *Atopa*, *Plectopylis*, and a number of other sections referred to "*Anchistoma*" by Tryon, Fischer, and others, should be widely sundered from this subgenus. There are several striking and important anatomical differences. On account of the heterogeneous composition of *Anchistoma* I have dropped that name

altogether, and have substituted *Polygyra*, the oldest name proposed for a member of the subgenus as restricted here. The species are nearly all American.

PUPA.

In this difficult genus I have had the advantage of the experience of Dr. V. Sterki of New Philadelphia, Ohio, who has kindly criticised my mss., pointing out to me the distinctions between *V. pentodon* and *V. curvidens*; the identity of *P. simplex* with *P. edentula* of Europe, and the generic position of this species, which had heretofore been classed in *Vertigo*;* and also for information regarding the curious little group *Angustula*, lately proposed by him. The balance of the species I have left as in my original mss. I have not been able to make certain other changes recommended by Dr. Sterki. *P. sterri* Voith, a European species, has been identified by him from Colorado, but I am disposed to refer the form to some variety of *P. muscorum*.

SUCCINEA Drap.

I have made no special study of this genus. The species are arranged alphabetically.

VAGINULUS Blainv.

The reasons for adopting the name *Vaginulus* instead of *Veronicella* given by Fischer (Manual, p. 493, and Moll. Mex. et l'Amer. Cent.) seem to me conclusive.

Origin. In regard to origin of the snail fauna of the United States, we may roughly divide the species into six categories, as follows:

(1.) Species introduced by human agency, such as *Helix hortensis*, *Limax agrestis* and *maximus*, *Rumina decollata*, etc. These are principally European forms, and are as yet only locally distributed. In the list they are indicated by having their numbers in brackets.

(2.) Species inhabiting both Palæarctic and Nearctic regions. Mostly minute boreal forms. *Pupa muscorum*, *Helix pulchella*, *Zonites radiatulus*, *Punctum pygmaeum*, etc., are examples.

(3.) Pacific slope or Californian fauna. This fauna occupies the region lying west of the Sierra Nevada,—a range which divides America into two primary faunal provinces. This division was commenced with the upheaval of the Sierras in Jurassic times, constitut-

* Dr. Sterki calls the subgenus containing *P. edentula*, "*Edentulina*" but this name is preoccupied in *Streptaxidae* and elsewhere.

ing a barrier which was insurmountable to most land snails. From the gradually receding Pacific, California, a narrow, long strip, emerged. Sometime in the early tertiary (probably) there was an infusion of Palæarctic types into this region, from the Northwest.¹ To this influence we owe the Arionta-like shells, *Gonostoma*, *Ariolimax* (most nearly related to the Old World genus *Arion*), etc., which are closely allied to characteristic Palæarctic types, but are quite different from the snails of Eastern North America.

(4.) American fauna, embracing the whole country lying East of the Sierra Nevada range. This is the autochthonous American fauna, developed with very little trace of Old World influence, or none at all, from an early, probably Cretaceous, period. Characteristic groups are *Mesodon*, *Stenotrema*, *Triodopsis*, *Polygyra*, *Strepomatidae*, *Campeloma*, *Amnicola*, *Somatogyrus*, etc.

In the South this fauna has received species from two sources: (5) Mexican species, such as *Bulimulus alternatus* and *schiedeanus*, *Holospira*, etc., and (6) West Indian and Central and South American forms which have passed into Florida, such as *Orthalicus*, *Liguus*, *Bulimulus*, *Cylindrella*, *Microphysa*, *Ptychopatala*, etc. The number of these makes it probable that there has been land connection with South America by way of the Antilles and Caribees; a theory which derives no slight support from the finding in Florida of quaternary fossil *Glyptodon* and other South American forms.²

Family i. TESTACELLIDÆ.

Genus i. GLANDINA Schumacher, 1817.

1. GLANDINA TRUNCATA Gmel. Coast Region from Ga. and Fla., to Texas.
- 1a. GLANDINA TRUNCATA BULLATA Gld. Louisiana.
- 1b. GLANDINA TRUNCATA PARALLELA W. G. Binney. Florida.
2. GLANDINA TEXASIANA Pfr. Brownsville, Texas.
3. GLANDINA DECUSATA Desh. Central Southern Texas.
4. GLANDINA VANUXEMENSIS Lea. Southern Texas.

Family ii. SELENITIDÆ Fischer.

Genus ii. SELENITES Fischer, 1878.

5. SELENITES CONCAVA Say. Eastern U. S.
6. SELENITES VANCOUVERENSIS Lea. Washington Ter., to Alaska; Western Idaho.

¹ Siberia and Alaska are now united by a ridge covered by less than 50 fms. depth. This was probably dry land during the Eocene, as it is also said to have been during part of the Quaternary.

² See Proc. Acad. N. S. Phila. 1889, p. 96.

7. *SELENITES HEMPHILLI* W. G. Binn. Eastern Oregon and Washington Ter.
8. *SELENITES SPORTELLA* Gld. San Diego to Puget Sound.
9. *SELENITES VOYANA* Newc. San Diego to Trinity Co., Cal.
- 9a. *SELENITES VOYANA SIMPLICILABRIS* Ancey. Cal.
10. *SELENITES DURANTI* Newc. San Francisco, Cal., southward.
- 10a. *SELENITES DURANTI CÆLATA* Mazyck. Southern California.

Family iii. LIMACIDÆ.

Genus iii. LIMAX Linn.

- [11.] *LIMAX MAXIMUS* Linn. New Bedford and Cambridge, Mass.; Philadelphia, Pa.; New Braunfels, Texas.
- [12.] *LIMAX FLAVUS* Linn. Most large cities of Atlantic Coast.
- [13.] *LIMAX AGRESTIS* Müll. Most large cities of Atlantic Coast.
14. *LIMAX CAMPESTRIS* Binn. U. S. east of Rocky Mts.
15. *LIMAX MONTANUS* Ingersoll. Utah; Colorado.
16. *LIMAX HYPERBOREUS* Westerlund. Labrador.
17. *LIMAX HEWSTONI* Cooper. San Francisco, Cal.

Genus iv. VITRINA Drap., 1801.

18. *VITRINA LIMPIDA* Gld. Northern U. S.
19. *VITRINA PFEIFFERI* Newc. Mts. of Utah, Nevada, Idaho, Cal., etc.
20. *VITRINA ANGELICÆ* Beck. Greenland.
21. *VITRINA EXILIS* Morel. Alaska; Labrador.

Genus v. VITRINOZONITES W. G. Binn., 1879.

22. *VITRINOZONITES LATISSIMUS* Lewis. Mts. of E. Tennessee and Western N. Carolina.

Genus vi. ZONITES Montf., 1810.

(Section Mesomphix Rafinesque, 1819.)

23. *ZONITES CAPNODES* W. G. Binn. E. Tennessee; Northern Alabama; Western N. Carolina.
24. *ZONITES FULIGINOSUS* Griff. Eastern U. S.
25. *ZONITES FRIABILIS* W. G. Binn. Eastern U. S.
26. *ZONITES CADUCUS* Pfr. New Washington, Texas (?)
27. *ZONITES LÆVIGATUS* Pfr. Western Pennsylvania to Arkansas and Florida.

28. ZONITES DEMISSUS Binn. Western Pennsylvania to Texas and Georgia.
29. ZONITES ACERRUS Lewis. Mts. of E. Tennessee and Western N. Carolina.
30. ZONITES LIGERUS Say. Eastern U. S.
31. ZONITES INTERTEXTUS Binn. Eastern U. S.
32. ZONITES CERINOIDEUS Anth. Virginia to Florida.
33. ZONITES INORNATUS Say. Appalachian Mts., Penna., Southward
34. ZONITES SUBPLANUS Binn. Mts. of Eastern Tenn., and Ky.; Western Penna. and N. C.
35. ZONITES RUGELI W. G. Binn. Western N. C.
36. ZONITES SCULPTILIS Bld. Western N. C.; Eastern Tenn.; Northern Ala.; Northern Texas.
37. ZONITES ELLIOTTI Redf. Mts. of Ga., Tenn., Western N. C. and Va.

(Section *Hyalina* Fer., 1819.)

- [38.] ZONITES CELLARIUS Müll. Principal cities of Eastern States; Portland, Oregon.
39. ZONITES WHITNEYI Newc. Sierra Nevada Mts., Cal.; Utah.
40. ZONITES NITIDUS Müll. Northern U. S. and British America.
41. ZONITES ARBOREUS Say. Entire U. S.
42. ZONITES RADIATULUS Alder. ("viridulus Mke.;" *electrinus* Gld.)
43. ZONITES DALLIANUS Simpson. Western Fla.
44. ZONITES INDENTATUS Say. Dakota to Texas and eastward.
45. ZONITES SUBRUPICOLUS Dall. Cave in Utah.
46. ZONITES WHEATLEYI Bld. Knoxville, Tenn.; (Tiverton, R. I.?)
47. ZONITES PETROPHILUS Bld. Knoxville, Tenn.; Habersham Co., Ga.; Clarkesville, N. C.
48. ZONITES LIMATULUS Ward. New York to Cal. and northward.
49. ZONITES MINUSCULUS Binn. Entire U. S.
- 49a. ZONITES MINUSCULUS ALACHUANUS Dall. Alachua Co., Fla.
50. ZONITES SINGLEYANUS Pilsbry. Central Texas.
51. ZONITES MILIUM Morse. Entire U. S.

- 52. ZONITES BINNEYANUS Morse. North-eastern U. S.; Canada.
 - 53. ZONITES FERREUS Morse. Maine.
 - 54. ZONITES EXIGUUS Stimpson. North-eastern U. S.; Canada.
 - 55. ZONITES CHERSINELLUS Dall. Calaveras Co., Cal.
 - 56. ZONITES LAWI W. G. Binn. Eastern Tenn.
 - 57. ZONITES CAPSELLA Gld. Mts. of Eastern Tenn., and W. Va.
 - 58. ZONITES PLACENTULUS Shutt. Eastern Tenn., and Ky; W. Va., Ark.
 - 59. ZONITES STERKII Dall. Ohio.
 - 60. ZONITES SELENITOIDES Pilsbry. California.
- (Section *Conulus* Fitzinger, 1833.)
- 61. ZONITES FULVUS Drap. Entire U. S.
 - 61a. ZONITES FULVUS EGENUS Say.
- (Section *Gastrodonta* Albers, 1850.)
- 62. ZONITES GULARIS Say, Western Pa. to Ga. and Ala.
 - 63. ZONITES SUPPRESSUS Say. Eastern U. S.
 - 64. ZONITES CUSPIDATUS Lewis. Monroe Co., E. Tenn.; Roan Mt., N. C.
 - 65. ZONITES ANDREWSI W. G. Binn. Roan Mt., N. C.
 - 66. ZONITES MACILENTUS Shutt. Mts of Eastern Tenn.; Western N. C.
 - 67. ZONITES LASMODON Phillips. Eastern Tenn.; Northern Ala.
 - 68. ZONITES SIGNIFICANS Bld. Tenn.; Indian Ter.
 - 69. ZONITES INTERNUS Say. Ohio and Missouri to Ga.
 - 70. ZONITES MULTIDENTATUS Binn. North-eastern U. S.; Canada.

Subgenus vii. **GUPPYA** Mörch.

- 71. GUPPYA? GUNDLACHI Pfr. Western and Southern Fla.;

Genus viii. **PRISTILOMA** Ancey, 1887.

- 72. PRISTILOMA LANSINGI Bld. Astoria, Oregon.
- 73. PRISTILOMA STEARNSI Bld. Oregon; Washington Ter., Alaska.

Family iv. **TEBENNOPHORIDÆ.**

Genus ix. **TEBENNOPHORUS** Binn., 1842.

(Section *Tebennophorus*.)

- 74. TEBENNOPHORUS CAROLINENSIS Bosc. Eastern U. S.

(Section Pallifera Morse.)

- 75. *TEBENNOPHORUS DORSALIS* Binn. North-eastern U. S.
- 76. *TEBENNOPHORUS WETHERBYI* W. G. Binn. Whitley Co., Ky.
- 77. *TEBENNOPHORUS HEMPHILLI* W. G. Binn. Hall Co., Ga.

Family v. HELICIDÆ.**Genus x. ARION Fer., 1819.**

- [78.] *ARION FUSCUS* Müll. Boston and New Bedford, Mass.

Genus xi. ARIOLIMAX Mörch, 1860.

- 79. *ARIOLIMAX COLUMBIANUS* Gld. Washington Ter. to Cal.
- 80. *ARIOLIMAX CALIFORNICUS* J. G. Coop. Cal., near San Francisco.
- 81. *ARIOLIMAX NIGER* J. G. Coop. Central California.
- 82. *ARIOLIMAX HEMPHILLI* W. G. Binn. Alameda Co., Cal.
- 83. *ARIOLIMAX ANDERSONI* W. G. Binn. Alameda Co., Cal.
- 84. *ARIOLIMAX HECOXI* Wetherby. Santa Cruz, Cal.

Genus xii. PROPHYSAON Bld. and Binn., 1873.

- 85. *PROPHYSAON HEMPHILLI* B. and B. Oregon; California.
- 86. *PROPHYSAON ANDERSONI* J. G. Coop. Mendocino Co., Cal.

Genus xiii. HEMPHILLIA Bld. and Binn., 1872.

- 87. *HEMPHILLIA GLANDULOSA* Bld., and Binn. Washington Ter. and Oregon.

Genus xiv. BINNEYA J. G. Cooper, 1863.

- 88. *BINNEYA NOTABILIS* J. G. Coop. Santa Barbara Id., Cal.

Genus xv. PATULA Held, 1837.

(Section Anguispira Morse, 1864.)

- 89. *PATULA ALTERNATA* Say. Eastern U. S.
- 89a. *PATULA ALTERNATA FERGUSONI* Bld. New York; Ohio.
- 89b. *PATULA ALTERNATA MORDAX* Shutt. Mts. of Tenn. and Va.
- 90. *PATULA CUMBERLANDIANA* Lea. Mts. of Eastern Tenn.
- 91. *PATULA SOLITARIA* Say. Mississippi and Ohio Valleys; Northern Idaho; Eastern Oregon, etc.
- 92. *PATULA STRIGOSA* Gld. Nevada to Idaho and Colorado.
- 92. *PATULA STRIGOSA STRIGOSA* Gld. (Including *cooperi* W. G. B. and *utahensis* Hemphill.)

- 92a. *PATULA STRIGOSA HAYDENI* Gabb. (Including *Hemphilli* Newc., *gabbiana* Hemphill, *bruneri* Ancey, *wasatchensis* Hemphill.) Nevada, Idaho, Colorado, Utah.
- 92b. *PATULA STRIGOSA IDAHOENSIS* Newc. (Including *binneyi*, *newcombi*, *castaneus*, *albofasciata*, *gouldi* and *multicostata* of Hemphill.) Idaho; Utah.

(Section *Discus* Fitzinger.)

93. *PATULA PERSPECTIVA* Say. Eastern U. S.
94. *PATULA BRYANTI* Harper. Mitchell Co., N. Carolina.
95. *PATULA STRIATELLA* Anthony.
- 95a. *PATULA STRIATELLA CRONKHITTEI* Newc. Klamath Valley, Oregon.
96. *PATULA RUDERATA PAUPER* Gould. Alaska.
97. *PATULA HORNII* Gabb. Arizona.

(Section *Ptychopatula* Pilsbry, 1889.)

98. *PATULA CÆCA* Guppy. St. Augustine to Hillsborough River, Florida; Hidalgo, Texas.
99. *PATULA GRANUM* Strebel and Pfeffer. Alachua Co.; Evans' Plantation, Rogers River; and near Lake Worth, Florida.

(Section *Planogyra* Morse, 1864.)

100. *PATULA ASTERISCUS* Morse. Maine to Washington Ter. and Northward.

(Section *Microphysa* Albers-Martens, 1860.)

101. *PATULA INCRUSTATA* Poey. Galveston, Corpus Christi, and Hidalgo, Texas.
102. *PATULA VORTEX* Pfr. Southern Florida.
103. *PATULA INGERSOLLI* Bld. Lawrence, Kansas; Colorado; Utah; Umatilla Co., Oregon.

Subgenus *HELICODISCUS* Morse, 1864.

104. *PATULA LINEATA* Say. Entire U. S.
105. *PATULA FIMBRIATA* Wetherby. Mts. of Eastern Tennessee;

Subgenus *ACANTHINULA* Beck, 1837.

106. *PATULA HARPA* Say. Maine to Minnesota and Northward.

Genus xvi. *PUNCTUM* Morse, 1864.

107. *PUNCTUM PYGMÆUM MINUTISSIMUM* Lea. Entire U. S.
108. *PUNCTUM CONSPECTUM* Bld. Monterey, Cal., to Alaska; Colorado.

Genus xvii. **HELIX** Linne, 1758.Subgenus **HELIX** (restricted).(Group *Pentatzenia* A. Schm.)(Section *Pomatia* Beck, 1837.)

- [109.] **HELIX ASPERSA** Müll. Charleston S. C., New Orleans ;
Santa Barbara, Cal., etc.

(Section *Tachea* Leach, 1840.)

- [110.] **HELIX NEMORALIS** Müll. Lexington, Va.; Burlington, N. J.

- [110a.] **HELIX NEMORALIS HORTENSIS** Linn. Newfoundland to
Cape Cod, along the Coast.

(Group *Arianta* Leach, 1840.)(Section *Lysinoe* H. and A. Ad., 1855.)

111. **HELIX FIDELIS** Gray. Northern Cal. to Vancouver Id.
111a. **HELIX FIDELIS INFUMATA** Gould. Coast of Cal., from
Marin Co. to Mendocino Co.
112. **HELIX TOWNSENDIANA** Lea. Oregon.
113. **HELIX ARROSA** Gould. Santa Cruz to Mendocino Co., Cal.
114. **HELIX EXARATA** Pfr. Santa Cruz to Marin Co., Cal.
115. **HELIX CALIFORNIENSIS** Lea. Monterey, Cal.
115a. **HELIX CALIFORNIENSIS NICKLINIANA** Lea. Santa Cruz to
Mendocino Co., Cal.
115b. **HELIX CALIFORNIENSIS ANACHORETA** W. G. B. Cal-
ifornia.
115c. **HELIX CALIFORNIENSIS RAMENTOSA** Gould. Napa Co. to
Santa Clara Co., Cal.
115d. **HELIX CALIFORNIENSIS BRIDGESI** Newc. San Pablo, Cal.
115e. **HELIX CALIFORNIENSIS DIABLOENSIS** J. G. Coop. Near
San Francisco, Cal.
116. **HELIX TUDICULATA** Binney. San Diego to Ventura Co.,
and Merced, Tuolumne and Calaveras Cos., Cal.
117. **HELIX DUPETITHOUARSI** Desh. Monterey, Cal.
118. **HELIX TRASKI** Newcomb. Los Angeles to Ft. Téton and to
San Luis Obispo.
119. **HELIX SEQUOICOLA** Cooper. Santa Cruz Co., Cal.
120. **HELIX MORMONUM** Pfr. Fresno Co. to Klamath Lake,
Cal.
120a. **HELIX MORMONUM CIRCUMCARINATA** Stearns. Stanislaus
Co., near Turlock, Cal.

- 120b. *HELIX MORMONUM HILLEBRANDI* Newc. Calaveras and Tuolumne Cos., Cal.
 121. *HELIX CARPENTERI* Newc. San Diego, Cal.
 122. *HELIX ROWELLI* Newc. Salt River Mts., 7 miles north of Phoenix, Arizona.
 123. *HELIX RUFOCINCTA* Newc. Catalina Id., Cal.
 124. *HELIX GABBI* Newc. Is. of San Clemente, Santa Barbara and San Nicolas, Cal.
 124a. *HELIX GABBI FACTA* Newc. Santa Barbara Id., Cal.
 125. *HELIX KELLETHI* Forbes. San Diego and Catalina Id., Cal.
 126. *HELIX STEARNSIANA* Gabb. San Diego, Cal.
 127. *HELIX AYRESIANA* Newc. Is. of Santa Cruz, San Miguel, Santa Rosa, Cal.
 128. *HELIX INTERCISA* W. G. Binney. San Clemente Id., and Santa Cruz Id., Cal.
 129. *HELIX INTERCISA REDIMITA* W. G. Binney. San Clemente Id., Cal.
 130. *HELIX TRYONI* Newc. Santa Barbara and San Nicolas Is., Cal.

(Section *Praticola* Strebel et Pfeffer.)

131. *HELIX BERLANDIERIANA* Moricand. Texas.
 132. *HELIX GRISEOLA* Pfeiffer. Southern Texas.

Subgenus **HEMITROCHUS** (Swains.) Pilsbry.

(Section *Hemitrochus* Swainson, 1840.)

133. *HELIX VARIANS* Menke. Florida Keys.

Subgenus **FRUTICICOLA** Held.

(Section *Fruticicola* Held, 1837.)

- [134.] *HELIX HISPIDA* Linné. Martha's Vineyard, Mass.
 [135.] *HELIX RUFESCENS* Pennant. Quebec, Canada.
 [136.] *HELIX CANTIANA* Montagu. Quebec, Canada.

(Section *Turricula* Beck, 1837.)

- [137.] *HELIX ELEGANS* Gmel. (*T. terrestris* Chemn., Binney) Charleston, S. Carolina.

Subgenus **GLYPTOSTOMA** Binney and Bland.

138. *HELIX NEWBERRYANA* W. G. Binney. Los Angeles, Cal. to Todos Santos Bay, L. Cal.

Subgenus **POLYGYRA** Say, 1818.

(Section **Mesodon Rafinesque**, 1831.)

139. *HELIX JEJUNA* Say. Georgia; Florida.
- 139a. *HELIX JEJUNA MOBILIANA* Lea. Southern Alabama.
140. *HELIX LAWI* Lewis. Northwestern Ga., Western N. C. East Tenn.
141. *HELIX DOWNIEANA* Bld. Eastern Tenn. and Kentucky.
142. *HELIX MITCHELLIANA* Lea. N. C. to Kentucky and Ohio.
143. *HELIX CLAUSA* Say. Ohio to Dakota, Mississippi and Carolina.
144. *HELIX MULTILINEATA* Say. New York to Dakota.
145. *HELIX THYROIDES* Say. Eastern U.S.
- 145a. *HELIX THYROIDES BUCCULENTA* Gld. Southern U. S.
146. *HELIX ANDREWSI* W. G. Binn. Western N. C.; Northwestern Ga.
147. *HELIX ALBOLABRIS* Say. Eastern U. S.
- 147a. *HELIX ALBOLABRIS MAJOR* Binney. S. Carolina to Fla.
148. *HELIX EXOLETA* Binn. Western N. Y. to Missouri and Ga.
149. *HELIX DENTIFERA* Binn. Maine to Ohio and Ga.
150. *HELIX ROEMERI* Pfr. Central and Northern Texas.
151. *HELIX DIVESTA* Gould. Mississippi, Ark., Indian Ter.
152. *HELIX WETHERBYI* Bld. Eastern Tenn. and Ky.; Western N. C.
153. *HELIX CHRISTYI* Bld. Western North Carolina.
154. *HELIX WHEATLEYI* Bld. Western N. C. and Ga.
155. *HELIX PENNSYLVANICA* Green. Western Penna. to Va. and Ill.
156. *HELIX ELEVATA* Say. N. Y. to Wis., south to Missouri and Ga.
157. *HELIX CLARKI* Lea. Eastern Tenn.; Western N. C.
158. *HELIX COLUMBIANA* Lea. Sitka to Santa Cruz, Cal.
159. *HELIX ARMIGERA* Ancey. California.
160. *HELIX PTYCHOPHORA* A. D. Brown. Idaho.
161. *HELIX DEVIUS* Gould. Oregon.
162. *HELIX PROFUNDA* Say. Western N. Y. to Minn. and Kansas; South to Virginia.
163. *HELIX KIOWAENSIS* Simpson. Indian Ter.
164. *HELIX SAYII* Binney. Canada to Mich. and Ill.; South to Md. and Tenn.

- 164a. *HELIX SAYII CHILHOWEENSIS* Lewis. East Tenn.; Western N. C.

(Section *Stenotrema* Raf., 1819.)

165. *HELIX HIRSUTA* Say. Eastern U. S.
166. *HELIX STENOTREMA* Fér. Kentucky Southward.
167. *HELIX LABROSA* Bld. Eastern Tennessee; Northern Alabama; Arkansas.
168. *HELIX MAXILLATA* Gld. Mts. of Tennessee, Alabama and Georgia.
169. *HELIX EDGARIANA* Lea. Mts. of Tennessee, Northern Alabama and Georgia.
170. *HELIX SPINOSA* Lea. East Tennessee; Northern Alabama.
171. *HELIX EDWARDSI* Bld. Eastern Tennessee; West Virginia.
172. *HELIX BARBIGERA* Redf. Eastern Tennessee; Northern Alabama.
173. *HELIX MONODON* Rack. Eastern U. S.
173a. *HELIX MONODON FRATERNA* Say. Eastern U. S.
173b. *HELIX MONODON CINCTA* Lewis. Hayesville, N. C.
174. *HELIX LEAH* Ward. Ohio to Iowa.
175. *HELIX GERMANA* Gld. Oregon.

(Section *Triodopsis* Rafinesque 1819.)

176. *HELIX TRIDENTATA* Say. Eastern U. S.
177. *HELIX FALLAX* Say. Eastern U. S.
178. *HELIX INTROFERENS* Bld. Penna. to Ga., Tenn. and Kentucky.
179. *HELIX VANNOSTRANDI* Bld. South Carolina; Georgia.
180. *HELIX HOPETONENSIS* Shutt. North Carolina to Fla.
181. *HELIX VULTUOSA* Gld. Ark. to Texas; Florida.
182. *HELIX HENRIETTÆ* Mazyck. Eastern Texas.
183. *HELIX COPEI* Wetherby. Eastern Texas; Western La.
184. *HELIX CRAGINI* Call. Kansas.
185. *HELIX INFLECTA* Say. Eastern U. S.
186. *HELIX RUGELI* Shutt. Eastern Tenn. and Ky.; Western N. C.
187. *HELIX APPRESSA* Say. Eastern U. S.
188. *HELIX PALLIATA* Say. Eastern U. S.
189. *HELIX OBSTRICTA* Say. Indiana to Georgia.
190. *HELIX MULLANI* Bld. Northern Idaho.

- 191. *HELIX BINOMINATA* Tryon. (*Trio. hemphilli* W. G. B. preoc.) Northern Idaho.
- 192. *HELIX SANBURNI* W. G. Binn. Northern Idaho.
- 193. *HELIX SALMONENSIS* Tryon. (*Trio. harfordiana* W. G. B. preoc.) Idaho.
- 194. *HELIX LORICATA* Gld. California.
- 195. *HELIX ROPERI* Pilsbry. Redding, California.
- 196. *HELIX LEVETTEI* Bld. New Mexico; Arizona.

(Section *Polygyra* Say, 1818.)

- 197. *HELIX AURICULATA* Say. Florida.
- 197a. *HELIX AURICULATA MICROFORIS* Dall. Alachua Co., Fla.
- 198. *HELIX UVULIFERA* Shutt. Gulf Coast, Florida to Texas.
- 199. *HELIX POSTELLIANA* Bld. South Carolina to Florida.
- 200. *HELIX AURIFORMIS* Bld. Florida to Texas; Indian Ter.
- 201. *HELIX ESPILOCA* Rav. South Carolina to Texas.
- 202. *HELIX AVARA* Say. Florida.

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- 203. *HELIX LEPORINA* Gld. Illinois to Texas and Georgia.
- 204. *HELIX PUSTULOIDES* Bld. Georgia; Alabama; Tennessee.
- 205. *HELIX PUSTULA* Fér. South Carolina to Florida; Texas?

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- 206. *HELIX FASTIGANS* L. W. Say. Tennessee; Kentucky.
- 207. *HELIX TROOSTIANA* Lea. Tennessee; Kentucky.
- 208. *HELIX JACKSONI* Bld. Indian Ter.; Southern Missouri; Arkansas (Florida?).
- 208a. *HELIX JACKSONI DELTOIDEA* Simpson. Indian Territory.
- 209. *HELIX DORFEUILLIANA* Lea. Kentucky to Alabama, Missouri to Indian Ter. and Texas.
- 209a. *HELIX DORFEUILLIANA SAMPSONI* Wetherby. Arkansas.
- 210. *HELIX HAZARDI* Bld. Tenn. and Ala. to Ark.
- 211. ? *HELIX OPPILATA* Moric. Florida Keys.

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- 212. *HELIX MOOREANA* W. G. Binn. Texas.
- 212a. *HELIX MOOREANA THOLUS* W. G. Binn. Texas.
- 213. *HELIX TEXASIANA* Moric. Texas; Indian Ter.
- 214. *HELIX TRIODONTOIDES* Bld. Indian Ter.; Texas.
- 215. *HELIX VENTROSULA* Pfr. Southern Texas.
- 216. *HELIX HINDSI* Pfr. Southern Texas.
- 217. *HELIX ARIADNÆ* Pfr. Southern Texas.

218. **HELIX HIPPOCREPIS** Pfr. Comal Co., Texas.

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219. **HELIX CEREOLUS** Mühlf. Georgia; Florida; Alabama.
 219a. **HELIX CEREOLUS LAMINIFERA** Binn. (*P. cereolus* W. G. B.) Florida.
 219b. **HELIX CEREOLUS MICRODONTA** Desh. (*carpenteriana* Bld., *febigeri* Bld.) Florida to Texas.
 219c. **HELIX CEREOLUS SEPTENVOLVA** Say. Florida.

(Section **Polygyrella** Bland, 1878.)

220. **HELIX POLYGYRELLA** Bld. and Coop. Idaho; Montana.
 221. **HELIX HARFORDIANA** J. G. Cooper. Fresno Co., Cal.

(Section **Gonostoma** Held, 1837.)

222. **HELIX YATESI** J. G. Coop. Calaveras Co., Cal.

(Section **Vallonia** Risso, 1826.)

223. **HELIX PULCHELLA** Müll. Entire U. S.
 224. **HELIX PULCHELLA COSTATA** Müll.

Subgenus **STROBILA** Morse, 1864.

225. **HELIX LABYRINTHICA** Say. Eastern U. S.
 226. **HELIX HUBBARDI** A. D. Brown. Texas; Florida; Georgia.

Family vi. **PUPIDÆ.**

Genus xviii. **PUPA** Drap., 1801.

Subgenus **PUPA** (restricted).

(Section **Pupilla** Leach, = typical **Pupa**.)

227. **PUPA MUSCORUM** Linné. Northern U. S.
 227a. **PUPA MUSCORUM BLANDI** Morse. Colorado; Utah; Montana.
 228. **PUPA DECORA** Gould. British America; New York.
 229. **PUPA CORPULENTA** Morse. Colorado; Utah; Nevada.
 230. **PUPA ROWELLII** Newcomb. California; Colorado.
 231. **PUPA CALIFORNICA** Rowell. California.
 232. **PUPA**. Colorado.
 233. **PUPA CALAMITOSA** Pilsbry. San Diego and Lower Cal.

(Section **Leucocheila** Albers-Martens, 1860.)

234. **PUPA FALLAX** Say. Entire U. S.
 234a. **PUPA FALLAX ARIZONENSIS** Gabb. Arizona.
 235. **PUPA MODICA** Gould. S. Carolina to Alabama.
 236. **PUPA CORTICARIA** Say. Dakota to Mississippi and Eastward.

237. PUPA RUPICOLA Say. Southern and Middle States.
 238. PUPA HORDEACEA Gabb. Arizona.
 239. PUPA PELLUCIDA Pfeiffer. Texas; Florida.
 240. PUPA ARMIFERA Say. Dakota and Kansas Eastward;
 Mexico ?
 241. PUPA CONTRACTA Say. Minnesota to Texas and Eastward.
 242. PUPA HOLZINGERI Sterki. Illinois; Iowa; Minnesota.

(Section .)

243. PUPA EDENTULA SIMPLEX Gould. New England to Ohio;
 Canada.
 243a. PUPA EDENTULA ALTICOLA Ingersoll. Colorado; Utah;
 fossil in Mississippi Valley Loess.

Subgenus **ANGUSTULA** Sterki, 1889.

244. PUPA MILIUM Gould. Colorado to Maine.

Genus xix. **VERTIGO** Müller.

245. VERTIGO OVATA Say. Entire U. S.
 246. VERTIGO GOULDII Binney. Northeastern U. S.
 247. VERTIGO BOLLESIANA Morse. Northeastern States.
 248. VERTIGO VENTRICOSA Morse. Maine; New York.
 249. VERTIGO TRIDENTATA Wolf. New York to Illinois.
 250. VERTIGO PENTODON Say. Minnesota to Texas and East-
 ward.
 250a. VERTIGO PENTODON CINCINNATIENSIS Judge. Ohio.
 251. VERTIGO CURVIDENS Gould. Eastern States.
 251a. VERTIGO CURVIDENS FLORIDANA Dall. Florida.
 252. VERTIGO (?) VARIOLOSA Gould. Southern Florida.

Genus xx. **STROPHIA** Albers.

253. STROPHIA INCANA Binney. S. Florida.

Genus xxi. **HOLOSPIRA** Albers-Martens.

254. HOLOSPIRA ROEMERI Pfeiffer. New Braunfels and Howard
 Springs, Texas.
 255. HOLOSPIRA GOLDFUSSEI Menke. Southern Texas.

Family vii. **STENOGYRIDÆ**.Genus xxii. **RUMINA** Risso, 1826.Subgenus **RUMINA** (restricted).

- [256.] RUMINA DECOLLATA Linné. Charleston, S. C.

(Section **Opeas** Albers, 1850.)

257. RUMINA OCTONOIDES d'Orbigny. Florida.
 258. RUMINA SUBULA Pfr. Mobile, Ala.; Florida.

(Section *Melaniella* Pfr.)

- 259.
- RUMINA GRACILLIMA*
- Pfeiffer. S. Florida.

Genus xxiii. *FERUSSACIA* Risso, 1826.Subgenus *CIONELLA* Jeffreys.

- 260.
- FERUSSACIA SUBCYLINDRICA*
- Linn. Northern U. S.

Genus xxiv. *CÆCILIANELLA* Bourg.

- [261.]
- CÆCILIANELLA ACICULA*
- Müller. Florida.

Family viii. *ORTHALICIDÆ*.Genus xxv. *LIGUUS* Montfort, 1810.

- 262.
- LIGUUS FASCIATUS*
- Müller. S. Florida.

Subgenus *ORTHALICUS* Beck, 1837.

- 263.
- LIGUUS UNDATUS*
- Brug. S. Florida.

Family ix. *BULIMULIDÆ*.Genus xxvi. *BULIMULUS* Auctorum.

- 264.
- BULIMULUS DEALBATUS*
- Say. South Carolina to Indian Ter. and Texas.

- 265.
- BULIMULUS SCHIEDEANUS*
- Pfr. Texas.

- 266.
- BULIMULUS ALTERNATUS*
- Say. Louisiana; Texas.

- 267.
- BULIMULUS PATRIARCHA*
- W. G. Binney. Southern Texas.

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- 268.
- BULIMULUS SERPERASTRUS*
- Say. Southern Texas.

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- 269.
- BULIMULUS MULTILINEATUS*
- Say. Southern Florida.

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- 270.
- BULIMULUS DORMANI*
- W. G. Binney.

- 271.
- BULIMULUS MARIELINUS*
- Poey. S. Florida and Keys.

- 271a.
- BULIMULUS MARIELINUS HEMPHILLI*
- Wright. Florida.

Family x. *CYLINDRELLIDÆ*.Genus xxvii. *CYLINDRELLA* Pfeiffer, 1840.

- 272.
- CYLINDRELLA POEYANA*
- Pfeiffer. S. Florida.

- 273.
- CYLINDRELLA JEJUNA*
- Gould. S. Florida.

Genus xxviii. *MACROCERAMUS* Guilding, 1828.

- 274.
- MACROCERAMUS PONTIFICUS*
- Gould. S. Florida.

- 275.
- MACROCERAMUS GOSSEI*
- New Braunfels, Texas; Little Sarasota Bay, Fla.

Family xi. SUCCINEIDÆ.**Genus xxix. SUCCINEA Drap., 1801.**

- 276. SUCCINEA AUREA Lea. Ohio; Western N. Y.
- 277. SUCCINEA AVARA Say. Northern States.
- 278. SUCCINEA CAMPESTRIS Say. Georgia; Florida.
- 279. SUCCINEA CHRYSIS Westerl. Alaska.
- 280. SUCCINEA CONCORDIALIS Gould. Texas.
- 281. SUCCINEA EFFUSA Shutt. Florida to Louisiana.
- 282. SUCCINEA GRÆNLANDICA Beck. Greenland.
- 283. SUCCINEA GROSVENORI Lea. Alexandria, La.
- 284. SUCCINEA HAWKINSI Baird. Lake Osoyoos, Brit. Columbia.
- 285. SUCCINEA LINEATA W. G. B. Dakota and Idaho to New Mexico.
- 286. SUCCINEA LUTEOLA Gould. Florida; Texas.
- 287. SUCCINEA MOORESIANA Lea. Nebraska.
- 288. SUCCINEA NUTTALLIANA Lea. Oregon; California.
- 289. SUCCINEA OBLIQUA Say. Arkansas to Georgia Northward.
- 289a. SUCCINEA OBLIQUA TOTTENIANA Lea. New England to Penna.
- 290. SUCCINEA OREGONENSIS Lea. Oregon; California.
- 291. SUCCINEA OVALIS Gould. Northern and Middle U. S.
- 292. SUCCINEA OVALIS DECAMPI Tryon. Michigan.
- 292a. SUCCINEA OVALIS HAYDENI W. G. B. Utah; Nebraska.
- 292b. SUCCINEA OVALIS HIGGINSI Bland. Put-in-Bay, Lake Erie; Iowa City, Iowa.
- 292c. SUCCINEA OVALIS RETUSA Lea. Ohio.
- 293. SUCCINEA RUSTICANA Gld. Oregon; California; Nevada.
- 294. SUCCINEA SALLEANA Pfeiffer. Louisiana.
- 295. SUCCINEA SILLIMANI Bld. Nevada; California.
- 296. SUCCINEA STRETCHIANA Bld. Colorado; Nevada; California.
- 297. SUCCINEA VERRILLI Bland. Anticosti Id., Gulf of St. Lawrence.

Family xii. VAGINULIDÆ**Genus xxx. VAGINULUS Fér., 1821.**

- 298. VAGINULUS FLORIDANUS Binney. Florida.
- 299. VAGINULUS OLIVACEUS Stearns (?). Lobitos, California.

Family xiii. ONCHIDIIDÆ.**Genus xxxi. ONCHIDIUM Buchanan, 1800.**

300. ONCHIDIUM CARPENTERI W. G. Binney. Sts. of Fuca to
Gulf of Cal.

301. ONCHIDIUM FLORIDANUM Dall. Knight's Key, Florida.

Genus xxxii. ONCHIDELLA Gray, 1850.

302. ONCHIDELLA BOREALIS Dall. Alaska to Vancouver Id.